

November 14, 1960

Dr. Charles R. Phillips
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Dear Charlie:

Many thanks for your note of October 18th about Todd Mittwer and also, I should say, for the very many tidbits that you have been giving me now and again. I am really very grateful to you for getting so much information concerning activities in your laboratories, so many of which are pertinent to our own interests.

A propos the Mittwer report, I will see what I can do about clearing it through NASA channels; if that doesn't work I will see about the longer procedure that you indicated. My connection with NASA at the present time is as a consultant to the Planetary Sciences Committee and also as a grantee although the latter may not be very useful for the purpose.

I would like to ask you what is cronar, the material suggested as the tape for the particchrome? Also, was there some special basis for the choice of ethyl violet as the stain?

I would like to mention to you that we have had some good luck lately in the development of a suitable tape for the collection of microbial samples. Polyvinyl alcohol seems to fill the bill very well particularly insofar as it becomes tacky when moistened and then dries out again to make a nice glassy flexible film. The bacteria and other particles that have impinged on the surface while it is moist, now remain firmly embedded in it. If a moderately low concentration of methylene blue is incorporated in the tape, the bacteria pick this up selectively and show up very nicely against a dilute background. This indicates a very low affinity of the dye for the polymer. It should be possible to harden these tapes by exposing them to cross linking agents and that would further facilitate processing the particles in solutions of various reagents for cytochemistry. As an additional bonus, the optical properties of the tape are very good including high transparency in the ultraviolet. It may be desirable to reinforce the tapes either with an internal meshwork or by using the polyvinyl alcohol as a coating on another material. I thought this information might be of some use to your own studies; if your colleagues have already been on to this and have additional information, I would be glad to hear of it.

Yours sincerely,

Joshua Lederberg
Professor of Genetics